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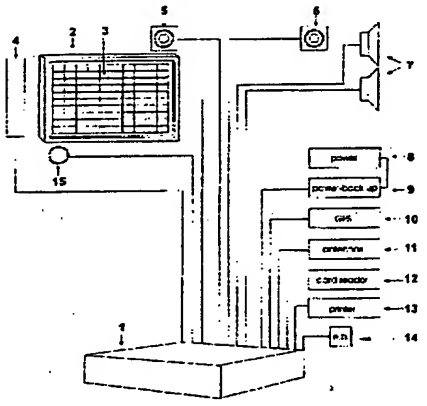
(54) Titre : PUBLICITE INFORMATISEE INTERACTIVE ET ECHANGE DE DONNEES A BORD DE VEHICULES
(54) Title: INTERACTIVE COMPUTERIZED ADVERTISING AND DATA EXCHANGE ON-BOARD IN VEHICLES



(57) Abrégé/Abstract:
Interactive Computerized Advertising and Data Exchange on-Board in Vehicles: is a vehicle device and method for providing advertising as well as other information on demand implementing informational system to meed the need for interactive and non-interactive information in-vehicle traveler in form of visual and sound information and allowing communicative interaction with a computer for selective and guided choice of information. The product implements technologies for information access and processing, communications and electronics in combination of applications of computing and communication technology and devises to assist in interactive information and data exchange between computer stored or imported transmitted data and information and in vehicle travelers. Allows real time advertizing to adapt to changing informational demands while still remaining preprogramed. The product implements hardware and software technologies that allows to detect, locate and identify specific demands, manipulate this information, analyze the data, and provide command to all participants of the system. All employed devices interact by means of using wire, and/or wireless, and/or digital audio broadcasting, and/or cellular, and/or packett radio modem, and/or other forms of data transmission and for updating and keeping the database current. Instructions are given to a computer by means of using a touch screen capability LCD monitor, voice recognition and communication capability software, mechanical, electronic, chemical and other devices and sensors for receiving instructions. The Instructions are routed through a computer hardware and software to obtain responding actions by means of incoming general information, advertising information, data and performing other supportive tasks. Objectives are: with this device and system to facilitate and provide a complete traveler's satisfaction of their informational needs and demands in-vehicle and on-ground. Such device and system installed in all means of public and private vehicles of transportation on ground, air and water as taxis, busses, trains, aircrafts, boats, automobiles, etc. efficiently increases the effectiveness and quality of interactive information requested by travelers.

Description

Title:
Interactive Computerized Advertising and Data Exchange on-Board in Vehicles

Scope of the Invention:

This invention is a device and method for providing in-vehicle travelers with advertising as well as other interactive and non-interactive information in form of visual and sound information. It allows communicative interaction with a computer and other sources and devices for obtaining selective and guided choice of information.

Background of the invention

The human need of information coming form sources as advertising, databases, Internet, TV, radio and etc. become more demanding and challenging every day with the increase of the amount and sources of information and decreased time for locating, filtering and pinpointing the right one. Therefor new technological developments allowed the use of computers, Internet, kiosks etc. we find almost anywhere in the convenience of homes, public areas, malls, at work, airports etc., and even carry with us as personalized hand-held devices for information assess. This invention is designed to fill the gap of personalized, interactive and non interactive need of information installed primarily in any vehicle for private or public transportation.

Summary of the Invention:

Interactive Computerized Advertising and Data Exchange on-Board in Vehicles: a vehicle device and method for providing advertising as well as other information on demand implementing informational system to meed the need for interactive and non-interactive information in-vehicle traveler in form of visual and sound information and allowing communicative interaction with a computer for selective and guided choice of information. The product implements technologies for information access and processing, communications and electronics in combination of applications of computing and communication technology and devises to assist in interactive information and data exchange between computer stored or imported transmitted data and information and in vehicle travelers. Allows real time advertizing to adapt to changing informational demands while still remaining preprogramed. The product implements hardware and software technologies that allows to detect, locate and identify specific demands, manipulate this

information, analyze the data, and provide command to all participants of the system. All employed devices interact by means of using wire, and/or wireless, and/or digital audio broadcasting, and/or cellular, and/or packett radio modem, and/or other forms of data transmission and for updating and keeping the database current. Instructions are given to a computer by means of using a touch screen capability LCD monitor, voice recognition and communication capability software, mechanical, electronic, chemical and other devices and sensors for receiving instructions. The Instructions are routed through a computer hardware and software to obtain responding actions by means of incoming general information, advertising information, data and performing other supportive tasks. Objectives are: with this device and system to facilitate and provide a complete traveler's satisfaction of their informational needs and demands in-vehicle and on-ground. Such device and system installed in all means of public and private vehicles of transportation on ground, air and water as taxis, busses, trains, aircrafts, boats, automobiles, etc., efficiently increases the effectiveness and quality of interactive information requested by travelers.

Brief Description of Drawings:

Figure 1 shows a schematic view of a computer system in accordance with this Invention.

1 A computer body 1 integrating hardware and software, input and output devices, and other devices and other necessary components for structuring and operating the system.

2 A LSD liquid crystal display monitor 2 is linked to the computer 1 and other devices.

3 A touch screen operated display 3 is attached to the LSD 2 and other devices.

4 A telephone 4 handset is connected to a computer 1 and monitor 2 and other devices.

5 A video camera 5 is connected to a computer 1 and other devices

6 A surveillance video camera 6 is connected to a computer 1 and other devices

7 Two speakers 7 are connected to a computer and other devices

8 A power supply 8 battery unit is connected to a back-up power supply 9, computer 1 and other devices

9 Power back-up supply unit 9 is connected to the computer 1 and other devices

10 A Global Positioning System device unit 10 is connected to computer 1 & other devices

11 Antennas 11 are connected to the computer and other devices

12 A electronic card reading device 12 is connected to computer 1 and other devices

13 A printer device 13 is connected to a computer 1 and other devices

14 A emergency button device 14 is connected to a computer 1 and other devices

15 A microphone device 15 is connected to a computer 1 and other devices

Detailed description:

Primarily the advantage of this invention is that this devise and process involves a number of base components to build a structure of in-vehicle computer based interactive and non interactive advertizing and information system module, allowing for future ad-ons, upgrade modifications and expansions with future technical developments. Considered broadly this system consist of a number of product and devises that function together as a unit reacting to particular instructions and, a process for performing particular tasks. It comprise fig. 1 Computer hardware 1 is connected with the rest of the components means via cable, wireless, radio or other means of wire or wireless connections for communication. The computer member 1 is fitted in a case and can be installed in various locations in a vehicle, depending on the type of vehicle and best functionality - in a trunk of a car, under seats, integrated in an arm rest, or back of a seat, in a head rest, integrated into a console attached to the sealing, build in side panels or back panels of a vehicle, and any other space provided for that purpose. The computer system holds, process, interacts, connects, and other functions for information related and other variety of tasks as follows:

A/ Information database means storing video and audio information on: local, national , international, maps, locations, accommodation, traffic and transportation, restaurants and food, entertainment and night life, facilities, places to visit, sports, arts, business, news, games, time tables, schedules, shops and shopping, tourist information, travel, cars, fashion, real estate, merchandise products, people, media, and for any other subject, product or service considered to be demanded information for travelers. The information can be with advertizing, charity, private, public, business, government, entertaining, and any other mean purpose and interest considered to be demanded source of information for vehicle passengers during a trip. The video means information ether 2D or 3D still images, or animated, or video or other visual presentation or combination from the above. Audio means sound information. The information is passive or interactive means it provides preprogramed one or two way interactive video and audio informational output to a video monitor 2, speakers 7, and the rest of the components.

B/ Real time video and sound information passive or interactive via means wire or wireless connection, means, cellular, or digital or digital audio broadcasting, or radio modem packetts, or and any other data transfer communications including telephone, Internet, TV and radio broadcasting and others and in combination of them. Real time information and data transfer means receiving one or two way passive or interactive data

and information in zero or reasonably small time difference from original broadcasting the signal and transitions. Including TV, Internet, radio, and any direct broadcasting.

C/ Comprising and connecting all of the devices and providing reliable interacting working environment for data processing and data transfer and by using specific software support.

D/ Lading , downloading, data communications and information exchange within and out of the system means computer and all links associated with it, connections between all devices is carried out means by wire and wireless connections means cellular, or electromagnetic, or radio modem packetts, or DAB digital audio broadcasting or any other wire or wireless communications for data transfer and in combination of them.

E/ Software supporting touch screen capability operating and commanding the computer and any other device associated with the system. Software enabling visual symbol images displayed on the monitor 2. means preprogramed image table for instructions are the physical commanding device for operating the system.

F/ Voice recognition and multilingual speech recognition capability software allowing the computer to accept voice instructions. It can replace physical manually operating the system. It has capability for vocabulary self-upgrading data. It can be implicated to facilitate blind people to use the system, as well as with multilingual speech recognition software. it will allow foreign tourists to use the system using language other than English language Generated computer voice software will deliver by generated computer voice, requested information through the speakers 7. allowing voice communication with the system.

G/ The computer hardware contents of means mobile, small, shock resistant motherboard and all other standard and specific components for sufficiently support fast speed, reliability compact size, and future upbraiding.

H/ A software enabling data exchange and communication to be carried out between units means minimum two units by means of wireless connection. A cellular hardware and software enables or other means any wireless connection telephone communications between minimum two units can be also carried out. Every unit has own imbedded cod and phone number.

J/ External connectors for cable connection to various other devices means computers fo data exchange and additional peripherals and devices means printer, zip drive, DVD, key board, mouse, handheld electronic devices and any others is present when demanded by travelers and or for service needs.

K/ A surveillance camera software enables the computer to collect still or video b/w or color

images, automatically at preprogramed time, storing those images in appointed hard drive, or transmitting means wireless the images for collection and storage to a remote computer. A door trigger mechanical or electrical mechanism can be added also to trigger the camera respectively the computer for tacking pictures.

L/ A camera software is present for connecting and image interacting and communication means between computer, camera, Internet, and other devices associated with the system

M/ Electronic payment software is present means to enable interact and credit card transactions to be carried out.

N/ GPS software is present to enable communication between the unit and central station via wireless and satellite connection.

O/ Emergency button 14 triggers preprogramed code in the computer. Thru software it sends signal via GPS system and cellular connection notifying emergency services. GPS enables the unit to be traced back and tracked informing the emergency services to locate the unit.

P/ A taxi implication: A computer software enables displaying visual and sound menu giving choice to passengers to find a preprogramed desired destination by name, or by mapping the locating on the displayed map. The computer gives choices of different routs by highlighting it on the map. Depending on the selected choice of the customer, the computer determines the distance, estimates approximate time for travel, determines the fair. A credit card reader 12 scans a credit debit card to complete the electronic payment transaction. A printer 13 prints a receipt. This process gives multiple choice to a client to pick a rout, giving advanced information of all details, allowing advanced payment that eliminates potential problems. Reducing crime over taxi drivers.

A liquid crystal display LSD 2 monitor with a TFT touch screen capabilities 3 glass layer on top are connected to the computer fig.1system. Other than delivering full color video images the LSD monitor and the TFT touch screen plays the a role of a command board for giving the computer manual instructions and respectively to the rest of devices and system. The LSD monitor TFT touch screen are integrated as one whole unit. It is installed in the interior of a vehicle, at conveniently located place for easy viewing and manipulating from the passengers. Depending on the type of the vehicle it can be installed for best functionality either integrated within the back of one or both of the head rest(s) , or integrated within the back of one or both of the front seat(s), or it may be located in the center of the vehicle between the front seats on an adjustable arm, or integrated into a

console attached to the sealing (with flipping down mechanism), or build in side panels or back panels of a car, or on specially mounted arms projected from a wall, floor or sealing or any other installation solution. The LSD with a touch screen capabilities allows fast, easy and convenient way of operating the computer, accessing information, placing phone calls, using the Internet, commanding the video camera, searching informational databases, electronic payment transactions and virtually controlling and communicating all devises in the system.

Surveillance camera 6 is installed into unsuspected discreet location inside a vehicle collecting still or video images from within the vehicle, functioning as a security devise for increased passengers safety. When a camera is installed taking still images, it can be controlled by the computer to collect pictures at a preset intervals of time. The camera has a infrared capabilities allowing to see in minimum light. The images are stored into the computer and downloaded when needed or can be transmitted via wireless connection to a center for collection. This camera can be used for public transportation vehicles as taxi cars, buses, trains, limousines and etc., as well as other applications where security of the public and vehicle operators is needed.

As additional safety feature to the surveillance camera an emergency button 14 is installed conveniently for the driver and at a convenience for passengers location to notify emergency services, in case of emergency. By suppressing the button it sends an electrical current to the computer triggering a signal that is transmitted via wireless signal to the emergency services. By using GPS emergency services are able to trace and pinpoint the location of the signal and dispatch help. GPS device transmitter 10 is installed in the computer.

A computer video camera 5 is integrated into the LCD video monitor case, to allow visual connection during telephone and Internet session. It is connected to the computer via cable connection and is controlled by the LCD touch display monitor.

A telephone hand set, or head piece is connected to the computer via cable for allowing discrete private conversations, or a mini-microphone is integrated into a LSD case , then again connected to the computer. The telecommunication signal is digitally transmitted via wireless cellular connection, or Internet, or radio signal. Software allows on screen dialing pad display to place calls, number display, time counting, video phone connection in real time, cost of the calls, and other functions if needed to facilitate passengers service.

Credit card magnetic reader device 12 is connected to a computer via cable

connection for electronic money transactions to be carried out. It can be set according to the needs for VISA, Master Card, American Express, interact or others. Transmission of the signal is carried out by wireless connection.

Speakers 7 are integrated into the case of the monitor or in convenient location it the vehicle interior. It will allow sound when sound is present with advertizing, TV, radio, telephone, Internet, and anytime sound is present. The level of volume is control by a volume control.

Printer 13 is connected to a computer via cable. It is printer using either laser, or dye, or ink or any other technology to comply to number of required standards. It is either build in the LSD monitor case, or implemented in the interior of the vehicle, or in any other convenient for passengers location.

Global positioning system GPS 10, or any other mean advanced technological system and device assisting to locate, position and keep continuos truck of the vehicle with this invention device on board, is installed in the computer 1., or in any other convenient in the vehicle location.

Main battery 8 suppling electrical power to the system.

Back up battery device 9. is installed in a convenient in the vehicle location to maintain the power supply for the computer system and all of the rest of the devices associated with this system in case of power failure or power inconsistency.

External or internal antennas 11 for assisting the computer and other devices in wireless transmissions, communications and means in data exchange.

The Interactive Computerized Advertising and Data Exchange on-board in vehicles system is a product, apparatus and process for means in-vehicle applications means any mobile vehicle of transportation, means automobiles, trucks, trains, trams, aircrafts, boats spacecrafts, water crafts, personal handheld or body wear, and any other means mobile device of transportation.

The Interactive Computerized Advertising and Data Exchange on-board in vehicles system is a product, apparatus and process for means any other applications means implemented and used for on ground, space stations, applications with the same functions, at airports, bus and train stations, in-door malls and anywhere else that the invention can providing adequate services to travelers.

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. A computer system for installation in vehicle for multiple passive or interactive advertizing and informational communications.

2 Computer system as claimed in claim 1 permitting communication with a multiple devices

3 The computer system as claimed in claim 1 communicate within and out and the rest of the components means via cable, wireless, Real time video and sound information passive or interactive via means wire or wireless connection, means, cellular, or digital or digital audio broadcasting, or radio modem packetts, or and any other data transfer communications including telephone, Internet, TV and radio broadcasting and others and in combination of them. Real time information and data transfer means receiving one or two way passive or interactive data radio or other means of wire or wireless connections for communication.

4 The computer member 1 is fitted in a case and can be installed in various locations in a vehicle, depending on the type of vehicle and best functionality - in a trunk of a car, under seats, integrated in an arm rest, or back of a seat, in a head rest, integrated into a console attached to the sealing, build in side panels or back panels of a vehicle, and any other space provided for that purpose.

3.Information database within the computer system as claimed in claim 1 means storing video and audio information on: local, national ,international, maps, locations, accommodation, traffic and transportation, restaurants and food, entertainment and night life, facilities, places to visit, sports, arts, business, news, games, time tables, schedules, shops and shopping, tourist information, travel, cars, fashion, real estate, merchandise products, people, media, and for any other subject, product or service considered to be demanded information for travelers. The information can be with advertizing, charity, private, public, business, government, entertaining, and any other mean purpose and interest considered to be demanded source of information for vehicle passengers during a trip. The video means information ether 2D or 3D still images, or animated, or video or other visual presentation or combination from the above. Audio means sound information The information is passive or interactive means it provides preprogramed one or two way interactive video and audio informational output to a video monitor 2 speakers 7, and the rest of the components.

Real time video and sound information passive or interactive via means wire or wireless connection, means, cellular, or digital or digital audio broadcasting, or radio modem packetts, or and any other data transfer communications including telephone, Internet, TV and radio broadcasting and others and in combination of them. Real time information and data transfer means receiving one or two way passive or interactive data and information in zero or reasonably small time difference from original broadcasting the signal and transitions. Including TV, Internet, radio, and any direct broadcasting.

5 Loading , downloading, data communications and information exchange within and out of the system means computer and all links associated with it, connections between all devices is carried out means by wire and wireless connections means cellular, or electromagnetic, or radio modem packetts, or DAB digital audio broadcasting or any other wire or wireless communications for data transfer and in combination of them.

6 Software supporting touch screen capability operating and commanding the computer and any other device associated with the system. Software enabling visual symbol images displayed on the monitor 2. means preprogramed image table for instructions are the physical commanding device for operating the system.

7 Voice recognition and multilingual speech recognition capability software allowing the computer to accept voice instructions. It can replace physical manually operating the system. It has capability for vocabulary self-upgrading data. It can be implicated to facilitate blind people to use the system, as well as with multilingual speech recognition software. it will allow foreign tourists to use the system using language other than English language Generated computer voice software will deliver by generated computer voice, requested information through the speakers 7 allowing voice communication with the system.

8 A software enabling data exchange and communication to be carried out between units means minimum two units by means of wireless connection. A cellular hardware and software enables or other means any wireless connection telephone communications between minimum two units can be also carried out. Every unit has own imbedded cod and phone number.

9 External connectors for cable connection to various other devices means computers fo data exchange and additional peripherals and devices means printer, zip drive, DVD, key board, mouse, handheld electronic devices and any others is present when demanded by travelers and or for service needs.

10 A surveillance camera and software enables the computer to collect still or video

images, automatically at preprogramed time, storing those images in appointed hard drive, or transmitting means wireless the images for collection and storage to a remote computer. A door trigger mechanical or electrical mechanism can be added also to trigger the camera respectively the computer for tacking pictures.

12 A camera software is present for connecting and image interacting and communication means between computer, camera, Internet, and other devices associated with the system

13 Electronic payment software is present means to enable interact and credit card transactions to be carried out.

14 GPS software is present to enable communication between the unit and central station via wireless and satellite connection.

15 Emergency button triggers preprogramed code in the computer. Thru software it sends signal via GPS system and cellular connection notifying emergency services. GPS enables the unit to be traced back and tracked informing the emergency services to locate the unit.

16 A computer software enables displaying visual and sound menu giving choice to passengers to find a preprogramed desired destination by name, or by mapping the locating on the displayed map. The computer gives choices of different routs by highlighting it on the map. Depending on the selected choice of the customer, the computer determines the distance, estimates approximate time for travel, determines the fair. A credit card reader 12 scans a credit debit card to complete the electronic payment transaction. A printer 13 prints a receipt. This process gives multiple choice to a client to pick a rout, giving advanced information of all details, allowing advanced payment that eliminates potential problems. Reducing crime over taxi drivers.

17 A liquid crystal display LSD 2 monitor with a TFT touch screen capabilities 3 glass layer on top are connected to the computer 1 system. Other than delivering full color video images the LSD monitor and the TFT touch screen plays the a role of a command board for giving the computer manual instructions and respectively to the rest of devices and system.

18. The LSD monitor TFT touch screen are integrated as one whole unit.

It is installed in the interior of a vehicle, at conveniently located place for easy viewing and manipulating from the passengers. Depending on the type of the vehicle it can be installed for best functionality either integrated within the back of one or both of the head rest(s) , or integrated within the back of one or both of the front seat(s), or it may be located in the center of the vehicle between the front seats on an adjustable arm, or integrated into a

19 Surveillance camera is installed into unsuspected discreet location inside a vehicle collecting still or video images from within the vehicle, functioning as a security devise for increased passengers safety. When a camera is installed taking still images, it can be controlled by the computer to collect pictures at a preset intervals of time. The camera has a infrared capabilities allowing to see in minimum light. The images are stored into the computer and downloaded when needed or can be transmitted via wireless connection to a center for collection. This camera can be used for public transportation vehicles as taxi cars, buses, trains, limousines and etc., as well as other applications where security of the public and vehicle operators is needed.

20 As additional safety feature to the surveillance camera an emergency button is installed conveniently for the driver and at a convenience for passengers location to notify emergency services, in case of emergency. By suppressing the button it sends an electrical current to the computer triggering a signal that is transmitted via wireless signal to the emergency services. By using GPS emergency services are able to trace and pinpoint the location of the signal and dispatch help. GPS device transmitter is installed in the computer

21 A computer video camera 5 is integrated into the LCD video monitor case, to allow visual connection during telephone and Internet session. It is connected to the computer via cable connection and is controlled by the LCD touch display monitor.

22 A telephone hand set, or head piece is connected to the computer via cable for allowing discrete private conversations, or a mini-microphone is integrated into a LSD case , then again connected to the computer. The telecommunication signal is digitally transmitted via wireless cellular connection, or Internet, or radio signal. Software allows on screen dialing pad display to place calls, number display, time counting, video phone connection in real time, cost of the calls, and other functions if needed to facilitate passengers service.

23 Credit card magnetic reader device 12 is connected to a computer via cable connection for electronic money transactions to be carried out. It can be set according to the needs for VISA, Master Card, American Express, interact or others. Transmission of the signal is carried out by wireless connection.

24 Speakers 7 are integrated into the case of the monitor or in convenient location it the vehicle interior. It will allow sound when sound is present with advertizing, TV, radio, telephone, Internet, and anytime sound is present. The level of volume is control by a volume control.

25 Printer 13 is connected to a computer via cable. It is printer using either laser, or dye,

or ink or any other technology to comply to number of required standards. It is either build in the LSD monitor case, or implemented in the interior of the vehicle, or in any other convenient for passengers location.

26 Global positioning system GPS 10, or any other mean advanced technological system and device assisting to locate, position and keep continuos truck of the vehicle with this invention device on board, is installed in the computer 1., or in any other convenient in the vehicle location.

27 Main battery 8 suppling electrical power to the system.

28 Back up battery device 9. is installed in a convenient in the vehicle location to maintain the power supply for the computer system and all of the rest of the devices associated with this system in case of power failure or power inconsistency.

29 External or internal antennas 11 for assisting the computer and other devices in wireless transmissions, communications and means in data exchange.

30 The computer system as claim in claim 1 is a product, apparatus and process for means in-vehicle applications means any mobile vehicle of transportation, means automobiles, trucks, trains, trams, aircrafts, boats spacecrafts, water crafts, personal handheld or body wear, and any other means mobile device of transportation.

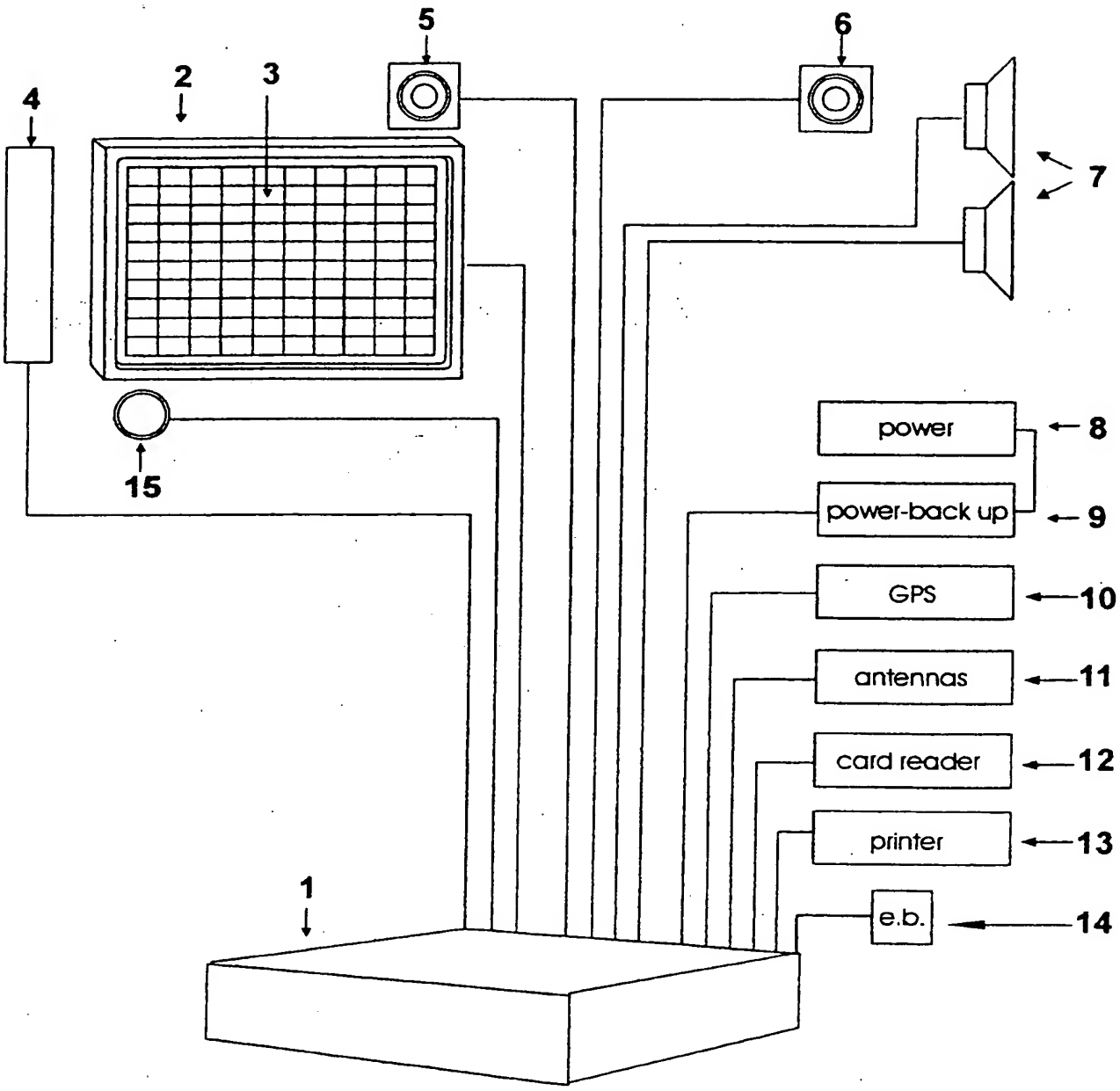
31 The computer system as claimed in claim 1 is a product, apparatus and process for means any other applications means implemented and used for on ground, space stations, applications with the same functions, at airports, bus and train stations, in-door malls and anywhere else that the invention can providing adequate services to travelers.

Abstract

Interactive Computerized Advertising and Data Exchange on-Board in Vehicles

Interactive Computerized Advertising and Data Exchange on-Board in Vehicles: is a vehicle device and method for providing advertising as well as other information on demand implementing informational system to meed the need for interactive and non-interactive information in-vehicle traveler in form of visual and sound information and allowing communicative interaction with a computer for selective and guided choice of information. The product implements technologies for information access and processing, communications and electronics in combination of applications of computing and communication technology and devises to assist in interactive information and data exchange between computer stored or imported transmitted data and information and in vehicle travelers. Allows real time advertizing to adapt to changing informational demands while still remaining preprogramed. The product implements hardware and software technologies that allows to detect, locate and identify specific demands, manipulate this information, analyze the data, and provide command to all participants of the system. All employed devices interact by means of using wire, and/or wireless, and/or digital audio broadcasting, and/or cellular, and/or packett radio modem, and/or other forms of data transmission and for updating and keeping the database current. Instructions are given to a computer by means of using a touch screen capability LCD monitor, voice recognition and communication capability software, mechanical, electronic, chemical and other devices and sensors for receiving instructions. The Instructions are routed through a computer hardware and software to obtain responding actions by means of incoming general information, advertising information, data and performing other supportive tasks. Objectives are: with this device and system to facilitate and provide a complete traveler's satisfaction of their informational needs and demands in-vehicle and on-ground. Such device and system installed in all means of public and private vehicles of transportation on ground, air and water as taxis, busses, trains, aircrafts, boats, automobiles, etc., efficiently increases the effectiveness and quality of interactive information requested by travelers.

Figure 1



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